

12. How is Billy going to replace players like Jason Giambi, Johnny Damon and Olmedo Saenz?
13. The three replacement players that Billy is interested in all have 'problems' but are cheap.
Name the players:

What do they all have in common?
14. Why did Billy not succeed at the major-league level as a player, despite having 'all the tools'?
15. The team that Billy has assembled is based on a statistical theory known colloquially as 'Moneyball'. Who invented this idea, and what was his real job at the time?
16. How many games back from the AL West lead are the Athletics as of May 23, 2002?
How many games had they lost of their last 17 games?
17. Why does Billy prefer Scott Hatteburg at 1st base instead of Carlos Pena (despite Hatteburg's lack of experience and fielding skills in the position)?
18. How does Billy solve the problem of his manager (Art Howe) preferring to play Pena at 1st instead of Hatteburg?
19. Even though Jeremy Giambi was a player acquired using the 'Moneyball' formula, why do you think Billy felt the need to trade him?
20. What is 'The Streak'?
21. Billy states that if the A's win the last (championship) game of the season, they would have re-invented the game. What does he mean by this?
22. At the end of the 2002 season, the Athletics had exactly the same number of wins as the Yankees.
How much did the Yankees pay on average for each win?
How much did the A's pay on average for each win?

AP STATISTICS ASSIGNMENT:

SECTION 1: MONEYBALL

1. In 1991, what was the total payroll for:
New York Yankees? *\$114 457 768* Oakland Athletics? *\$39 722 689*
2. The three players that the Oakland Athletics will to lose to free agency are:
Johnny Damon Jason Giambi Jason Isringhausen
3. What was Billy Beane (General Manager) told to do by the team owner of the Athletics?
Find replacements for the money the team actually has.
4. What is the real problem that Billy and his team of scouts have to solve?
Building a team on a limited budget that can compete against teams with big-money.
5. As a High School baseball star, why was Billy projected to be picked in the first round of the player draft?
Billy was a '5-tool' guy. He could run, field, throw, hit, and hit for power.
6. According to Pete Brandt, "... the goal of people who run ball clubs is not to buy players, it is to
buy wins . In order to *buy wins* , they need to *buy runs* ."
7. The equation on the whiteboard: $\frac{(\text{Runs scored})^2}{(\text{Runs scored})^2 + (\text{Runs allowed})^2}$, is known as the 'Pythagorean Expectation Formula'. What does it allow Pete to project?
Winning percentage of a team, hence the number of games (99) required to reach the 2002 post-season. (The Oakland Athletics actually won 103 games in 2002).
8. How many runs are needed, and how many runs can be allowed, in order for the team to reach this goal?
814 runs needed and 645 runs that can be allowed.
9. Pete explains to Billy that the code that is shown on his computer is an algorithm that analyzes players based on a number of statistics. It is all about getting everything down to *one number* .
What is it used for?
To find value in players that nobody else can see.
10. Pete knows that there are 25 potential players that must be out there and available for Oakland because
Everybody else undervalues them .
11. Why is Chad Bradford (a pitcher), undervalued by other teams?
He 'throws funny'.

